DUAL-MODE UWB AND WLAN TRANSCEIVER

Abstract of the Disclosure

A dual-mode ultra wideband (UWB) and wireless local area network (WLAN) communication transceiver is used to implement two disparate systems of UWB and WLAN operation within a single device according to present invention. During the UWB mode, the dual-mode transceiver sends and receives the UWB signal using transmitter and receiver filters as well as deals with baseband functions of multichannel PN sequence mapping and demapping, rake receiver, equalizer and channel estimation with programmability. During the WLAN mode, the dual-mode transceiver sends and receives the WLAN signal using transmitter and receiver filters as well as processes baseband functions of IFFT and FFT, I/Q modulation and demodulation, and channel estimation with programmability. In addition, the multichannel-based multicarrier for the UWB and WLAN transceiver can be controlled to provide information for transmitting or no-transmitting certain UWB channel signals to avoid the interference between UWB and WLAN device.